UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,578	07/30/2003	Louis-Antoine Blais-Morin	10442-29US CMB/lm	6470

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EXAMINER
DESIRE, GREGORY M

ART UNIT	PAPER NUMBER
2624	

DATE MAILED: 10/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>*30 July 2003*</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10 and 13* is/are rejected.

7)☒ Claim(s) *11 and 12* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 July 2003* is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Double Patenting

1.   The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees.   A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).
        A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.
        Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2.   Claims 1, 10 and 13 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 4, 10, 11 and 16 of U.S. Patent No. 7,027,651. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims of instant application are fully disclosed in patent 7,027,651 (Simon et al).

        Simon discloses,

Deriving at least one target primitive representative of the image (note claim 1 col. 12 lines 8-10);

Forming at least one basis from said at least one target primitive (claim 1 col. 12 line 27);

Determining, for each one of at least one basis, an affine Invariant representation of said at least one target primitive (claim1 col. 12 lines 28-29)

Identifying, using said affine invariant representation, at least one predefined model primitives, that at least partially matches said at least one target primitive (claim 1 col. 12 lines 31-32)

Computing, for said affine invariant representation, a proximity score indicative of degree of conformance between the identified models and said target primitives (claim 1 col. 12 lines 33-35).

3.   Claims 2-9 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 4, 10, 11 and 16 of U.S. Patent No. 7,027,651 (Simon et al) in view of Denneau (6,384,833).

Regarding claims 2-3 and 7-8,

Simon discloses determining affine invariant representation. Simon does not clearly disclose applying transformation matrix. Denneau disclose applying transformation matrix (note col. 2 lines 60-65). Simon and Denneau are combinable because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to apply transformation matrix in the system of Simon as evidenced by Denneau. The suggestion/motivation for doing

so would have been performing geometric processing to increase performance of graphics (note col. 1 lines 40-44). Therefore, it would have been obvious to combine Simon and Denneau to obtain the invention above.

Regarding claim 4

Simon discloses deriving, form and identifying functions. Simon does not clearly disclose processing functions performed in parallel. Denneau processing function performed in parallel (note col. 13 lines 18-20). Simon and Denneau are combinable because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to process functions in parallel in the system of Simon as evidenced by Denneau. The suggestion/motivation for doing so would have been performing geometric processing to increase performance (note col. 2 lines 12-15). Therefore, it would have been obvious to combine Simon and Denneau to obtain the invention above.

Regarding claim 5 Simon and Denneau discloses,

Storing said affine invariant representation in a surface in memory accessibly said texture engine (note Denneau col. 7 lines 25-27).

Regarding claims 6 Simon and Denneau discloses,

Wherein said texture engine further comprises a vertex buffer, said vertex buffer receiving said at least one target primitive (note Denneau fig. 3 block 300).

Regarding claim 9 Simon and Denneau discloses,

Wherein said texture engine further comprises a vertex shader, said vertex shader applying a transformation matrix on said at least one primitive (note Denneau fig. 3 block 303).

Claim Rejections - 35 USC § 102

4.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5.   Claim 1, 10 and 13 rejected under 35 U.S.C. 102(b) as being anticipated by the article, "Robust Affine Invariant Matching with Application to line Features by Tsai. Regarding claims 1, 10 and 13 Tsai discloses,

Deriving at least one target primitive representative of the image (note page 393, right column, first paragraph);

Forming at least one basis from said at least one target primitive (via the Hough transform, page 393, right column, first paragraph, and first paragraph of section 3; basis is formed by three lines, section 2);

Determining, for each one of at least one basis, an affine Invariant representation of said at least one target primitive (section 2)

Identifying, using said affine invariant representation, at least one predefined

model primitives, that at least partially matches said at least one target primitive (page

393, right column, under "The recognition stage"; section 5.2)

Computing, for said affine invariant representation, a proximity score indicative of

degree of conformance between the identified models and said target primitives (note

section 5.2).

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7.   Claims 2- 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsai

in view Denneau et al (6,348,833)

Regarding claims 2-3 and 7-8,

Tsai discloses determining affine invariant representation. Tsai does not clearly

disclose applying transformation matrix. Denneau disclose applying transformation

matrix (note col. 2 lines 60-65). Tsai and Denneau are combinable because they are

from the same field of endeavor. At the time of the invention, it would have been

obvious to a person of ordinary skill in the art to apply transformation matrix in the

system of Tsai as evidenced by Denneau. The suggestion/motivation for doing so

would have been performing geometric processing to increase performance of graphics

(note col. 1 lines 40-44). Therefore, it would have been obvious to combine Tsai and Denneau to obtain the invention above.

Regarding claim 4

Tsai discloses deriving, form and identifying functions. Tsai does not clearly disclose processing functions performed in parallel. Denneau processing function performed in parallel (note col. 13 lines 18-20). Tsai and Denneau are combinable because they are from the same field of endeavor. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to process functions in parallel in the system of Tsai as evidenced by Denneau. The suggestion/motivation for doing so would have been performing geometric processing to increase performance (note col. 2 lines 12-15). Therefore, it would have been obvious to combine Tsai and Denneau to obtain the invention above.

Regarding claim 5 Tsai and Denneau discloses,

Storing said affine invariant representation in a surface in memory accessibly said texture engine (note Denneau col. 7 lines 25-27).

Regarding claims 6 Tsai and Denneau discloses,

Wherein said texture engine further comprises a vertex buffer, said vertex buffer receiving said at least one target primitive (note Denneau fig. 3 block 300).

Regarding claim 9 Tsai and Denneau discloses,

Wherein said texture engine further comprises a vertex shader, said vertex shader applying a transformation matrix on said at least one primitive (note Denneau fig. 3 block 303).

Allowable Subject Matter

8.   Claims 11-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9.   The following is a statement of reasons for the indication of allowable subject matter for dependent claim 11. The critical feature is computing of transformed proximity score indicated of the degree of conformance between the transformed model and transformed target primitive. This feature in combination with other features is not taught in the prior art. Claims 12 depend on claim 11. Therefore are also objected.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory M. Desire whose telephone number is (571) 272-7449. The examiner can normally be reached on M-F (6:30-3:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on (571) 272-7778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Gregory M. Desire
Examiner
Art Unit 2624

G.D.
September 30, 2006